CASE STUDY

PROJECT POTABLE WATER & SEWAGE TREATMENT FOR GOLD MINE & ACCOMMODATION CAMP

PRODUCT Multimedia Filtration, Brackish Water Reverse Osmosis, Sodium Hypochlorite Sterilisation, Moving Bed Bioreactor, Packaged Sewage Pump Station

INDUSTRY Mining

LOCATION 200 kilometres east of Laverton, Western Australia

mak water
water | wastewater | sewage

BACKGROUND

When discovered in October 2013, Gruyere was one of the largest undeveloped gold deposits in Australia. The $532m project comprises a large-scale open pit mine, process plant and associated infrastructure, including a 644 room accommodation village.

MAK Water worked cooperatively with the client's engineering consultant throughout the scoping and feasibility study phases, and was awarded the contract to supply the potable water and sewage treatment plants for the accommodation camp and the process plant.

The plants were delivered in two stages; the first lot of plants were delivered to site in only 8 working weeks from the date of award.

SOLUTION

Due to the high salinity of the bore water at this site, sea water reverse osmosis plants were required to provide potable quality water for both the mine process water and drinking water applications. Separate sterilisation plants were also supplied to ensure the mine and camp potable water tanks were kept sterilised at all times. A sewage treatment plant was also supplied for the accommodation camp.

MBBR being installed onsite at the accommodation camp

POTABLE & PROCESS WATER SYSTEMS

- Pre-treatment system for iron and manganese removal
- 2 x SWRO plants designed for high TDS feed water (up to 30,000 mg/L, with large variability)
- 2 x Sterilisation plants supplied as standalone units to enable relocation throughout the construction period

SEWAGE TREATMENT PLANT

- MBBR with corrosion resistant fibre-reinforced plastic (FRP) bioreactors
- Design facilitates 80% turndown, for low flow conditions
- Irrigation pump and PLC controls for solenoid valves

Containerised SWRO plant undergoes factory acceptance tasting

RESULTS AND BENEFITS

- **Fast delivery.** First plants delivered 8 working weeks from award.
- **Environmental approvals.** MAK Water assisted the client's environmental team during the feasibility stage, ensuring the timely receipt of environmental approvals.
- **ClearAccess™ Remote monitoring.** Saves time in response to emergencies and assists local operators.
- **Lowest costs.** MAK Water offered a project discount. Spares and service savings are also achieved.